Remarks

In the present application, claims 1-8 and 10-20 are pending. Claims 1-8 and 10-20 are rejected. Claim 9 has been previously canceled.

Amendment to the Claims

Claims 1-2, 6, 12-16 and 18-19 are amended with merely clarifying amendments. Support for these clarifying amendments may be found throughout the specification.

Claim 21 is newly added. Support for this claim may be found throughout the specification, for example, page 4, lines 4-16 ("The first stage can be shown").

No new matter is added.

Claim Rejections - 35 U.S.C. § 112

The Examiner has rejected claims 13-15 under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement. The Applicants assert that the claims, as presently presented, overcome these rejections and respectfully request the Examiner withdraw these rejections to claims 13-15.

The Examiner argues that "the specification does define coarse scaling as in analog form" and that "the specification does not describe how digital image scaling is done by analog". However, it is noted that, for example, claim 13 recites "displaying an image corresponding to the coarse scaled image matrix in an analog form". There is no limitation regarding "scaling is done by analog". Rather, claim 13 specifies that "displaying an image" is done "in an analog form".

Additionally, it is noted that the specification discloses "The first stage can be shown in an analog or digital form". As disclosed, the showing of the "first stage" may done in "an analog or digital form", however, there is no requirement that the scaling of the "first stage" is done "by analog". It is unclear how this is interpreted to "define" "coarse scaling as in analog form".

Furthermore, it is noted that one of ordinary skill in the art may appreciate that coarse scaling may be performed prior to an analog-to-digital conversion of the image and therefore may be performed in an analog stage.

Claim Rejections - 35 U.S.C. § 112

The Examiner has rejected claims 1-8 and 10-15 under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. The Applicants assert that the claims, as presently presented, overcome these rejections and respectfully request the Examiner withdraw these rejections to claims 1-8 and 10-15.

The Examiner argues that the specification of the instant application does not disclose that "coarse scaling is simpler than fine scaling". However, consider the specification:

> "The first, coarse stage is simple and may comprise only the ratio 1/X. The next stage (fine) is more flexible, and may comprise the ratios Y/Z, in which Y < Z. X, Y, and Z are integers." (page 4, lines 4-16).

As disclosed, the "first, coarse stage is simple" and this is demonstrated by the restriction of the ratio to be "1/X". In contrast, the "next stage (fine)" is "more flexible" and may include more complex ratios "Y/Z". Thus, as disclosed, the coarse stage is described as simple while the fine stage is contrasted against that description by being "more flexible" and allowed a more complex ratio "Y/Z". Therefore, the specification conveys that the fine scaling is more flexible/complex than the coarse scaling (i.e., "coarse scaling is simpler than fine scaling").

Claim Rejection - 35 U.S.C. § 103(a)

The Examiner has rejected claims 1, 3, 5-7, 12 and 16-20 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh (U.S. Patent Publication No. 2004/0057634), herein Mutoh, in view of Matsui et al. (U.S. Patent No. 5,583,989), herein Matsui; claim 2 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh in view of Matsui and further in view of Yamaguchi (U.S. Patent No. 6,424,753), herein Yamaguchi; claim 4 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh in view of Matsui and further in view of Kamon (U.S. Patent No. 4,827,433), herein Kamon; claim 8 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh in view of Matsui and further in view of Kim (U.S. Patent Publication No. 2002/0060676), herein Kim; claim 10 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh in view of Matsui and further in view of Nijand (U.S. Patent No. 7,203,379), herein Nijand; and claim 11 as being unpatentable under 35 U.S.C. § 103(a) over Mutoh in view of Matsui and further in view of Yang, et al. (U.S. Patent Publication No. 2002/0025084), herein

Yang. The Applicants include the following comments to clearly distinguish the claimed invention over the art cited by the Examiner, and respectfully request a favorable reconsideration of claims 1-8, 10-12 and 16-20.

These rejections are respectfully disagreed with, and are traversed below.

The Examiner is respectfully reminded that, in accordance with the MPEP, the Examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Examiner must ascertain the differences between the claimed invention and the prior art. However, the gap between the prior art and the claimed invention may not be so great as to render the claim nonobvious (see MPEP § 2141-2142).

Regarding claim 1, which recites:

> "A method comprising:
> receiving, from a first processor at a second processor, **a coarse scaled image matrix** having a coarse scaling ratio 1/X as compared to an original image matrix, and
> **fine scaling, by the second processor, the coarse scaled image matrix** by using a ratio Y/Z to create a final image matrix having a scaling ratio R as compared to the original image matrix;
> where X, Y, and Z are non-zero integers,
> $Y < Z$,
> the scaling ratio R corresponds approximately to an equation Y/(Z*X), and
> **coarse scaling is simpler than fine scaling**" (emphasis added).

The Examiner asserts that Mutoh teaches:

> "receiving, from a first processor at a second processor, an intermediate image matrix having a coarse scaling ratio 1/X as compared to an original image matrix (Fig. 17 ref label S72, S73 and S74, para [0152]), and
> "fine scaling, by the second processor, the intermediate image matrix by using a ratio Y/Z (ZZ/Z1) (Fig. 17 ref label S74 and S75, para [0150] - [0152])...
> "Also, **coarse scaling (1/8) is simpler** then fine scaling (80/84)" (emphasis added).

Consider the disclosure or Mutoh:

"The first processing way which is **a high-order image processing** and thus, for example, **includes the jaggy processing** and thereby, a smooth contour of a relevant image is obtainable as shown in FIG. 1C, in comparison to a case of FIG. 1B which is obtained with a simple magnification processing and has a conspicuous jaggy phenomenon as mentioned above" (paragraph [0083], emphasis added).

"the processing time required for executing image magnification **processing in the first processing way (jaggy processing) is <u>significantly larger</u> then that in the second processing way** (simple magnification) since the former requires a larger amount of operation to be processed, the processing in the first processing way may take a much time than in the second processing way" (paragraph [0083], emphasis added).

"Then, according to the fourth embodiment, when a given target size-change rate ZZ is of an integer value without any fraction (Yes of Step S71), **the first processing way which includes an <u>advanced image processing</u>**, such as jaggy processing or so, is applied throughout the required size-change processing (Steps S76 and S77). On the other hand, in case the given target size-change rate includes a fraction (for example, it is `8.4` or so rather than simple `8` which is an integer) (No of Step S71), magnification or size reduction for the integer size-change portion Z1 (`8` in the above-mentioned example) is **performed in the first processing way (Steps S72 and S73)**. Then, after that, for the remaining fraction size-change portion (ZZ/Z1, i.e., (8.4)/8=1.05, in the above-mentioned example), **the second processing way which is a <u>simple size-change processing</u> is applied** (Steps S74 and S75). That is, in the above-mentioned example, the size-change processing for the portion of 8.4/8=1.05 (times) is performed by the second processing way" (paragraph [0152], emphasis added).

As disclosed, the "first processing way" is "high-order image processing" which is "significantly larger then that in the second processing way". This "first processing way" includes "**<u>advanced</u>** image processing". The "second processing way" is described as "**<u>simple</u>** size-change processing".

Assuming, arguendo, that the "first processing way" is analogous to the "coarse scaling" and that the "second processing way" is analogous to "fine scaling" (which the Applicants do not so assert), Mutoh teaches that the "fine scaling" is simpler than the "coarse scaling". This is in contradiction to where "coarse scaling is **<u>simpler</u>** than fine scaling" as in claim 1. Clearly, Mutoh does not disclose or suggest "coarse scaling is simpler than fine scaling" as in claim 1.

In the Response to Arguments section, the Examiner argues that "Jaggy processing in Mutoh is extra process of plurality of processes in first processing way that make image smooth, it is nothing to do with scaling".

Assuming, arguendo, that the "scaling" of the "first processing way" may be viewed separately from the "first processing way" (which the applicants do not assert), then, as described, application of "the second processing way which is a simple size-change processing" is described as preformed on the results of the "first processing way" which would be a "scaled" **and** Jaggy processed image. Thus, Mutoh teaches additional processing between the "coarse scaling" and the "fine scaling" (e.g., "Jaggy processing"). Therefore, Mutoh would not disclose or suggest "fine scaling" of "the coarse scaled image matrix", rather, Mutoh teaches "fine scaling" of a processed image which is generated by extra processing after scaling the original image. Therefore, (under the above assumption that "scaling" of the "first processing way" may be viewed separately from the "first processing way") Mutoh does not disclose or suggest "fine scaling, by the second processor, the coarse scaled image matrix" as in claim 1.

Additionally, it should be noted that Mutoh and the instant application approach a complex scaling problem from two distinct approaches. While both approaches include separate scaling steps (e.g., the "first processing way" and "second processing way" of Mutoh and the "coarse scaling" and "fine scaling" of the instant application), in the instant application, the second step of the process is "more flexible" and, thus, more complex, the teaching of Mutoh is the opposite, where the "first processing way" includes complex smoothing processing and then followed with a simple "fraction size-change portion". Accordingly, the teaching of Mutoh is contradictory to that of the instant application.

As neither Mutoh nor Matsui disclose or suggest "receiving, from a first processor at a second processor, a coarse scaled image matrix having a coarse scaling ratio 1/X as compared to an original image matrix", "fine scaling, by the second processor, the coarse scaled image matrix" and "coarse scaling is simpler than fine scaling" as in claim 1, the combination of Mutoh and Matsui (which the Applicants do not assert there is a motivation to so combine or that such a combination is feasible), herein Mutoh-Matsui, also does not disclose or suggest

these elements of claim 1. As Mutoh-Matsui does not disclose or suggest all elements of claim 1, claim 1 is not made obvious by Mutoh-Matsui. For at least this reason, claim 1 is in condition for allowance.

As claims 6 and 12 recite similar language to that discussed above with reference to claim 1; claims 6 and 12 are likewise in condition for allowance. Claims 3, 5, 7 and 16-20 depend upon claim 1. For at least this reason, they are likewise in condition for allowance.

Regarding claim 5, the Examiner asserts that Mutoh teaches "that 1/X is approximately Y/Z (para [0150] - [0152], scaling rate is close to 1, then 1/X is approximately Y/Z". However, Mutoh teaches that "magnification or size reduction for the **integer size-change portion** Z1 (`8` in the above-mentioned example) is performed" and "after that, **for the remaining fraction** size-change portion (ZZ/Z1, i.e., (8.4)/8=1.05, in the above-mentioned example), the second processing way which is a simple size-change processing is applied (Steps S74 and S75)". Note that Mutoh teaches that "ZZ" is the "given target size-change rate"

Mutoh teaches an "integer size-change portion Z1" and a "remaining fraction size-change portion" which is defined as "ZZ/Z1". Therefore, the "fraction size-change portion" performs a scaling function defined by the "integer size-change" and the "given target size-change rate". There is no disclosure or suggestion as to **what considerations are made regarding the selection of Z1** other than it is an "integer size-change portion".

Assuming, arguendo, that the "integer size-change" is analogous to the "coarse scaling" and that the "remaining fraction size-change portion" is analogous to the "fine scaling" (which the Applicants do not so assert), there is still no discussion regarding limitations on the "integer size-change portion" rate to be approximately the "fraction size-change portion" rate. Clearly, Mutoh does not disclose or suggest "selecting X, Y and Z so that 1/X is approximately Y/Z" as in claim 5.

As seen above, Mutoh does not disclose or suggest claims 1, 6 and 12. As claims 1, 6 and 12 are allowable over Mutoh then all claims that depend from claims 1, 6 and 12 should also be allowable over Mutoh, whether considered alone or in combination with other art cited as applied by the Examiner. Further, the addition of the disclosures of Yamaguchi, Kamon, Kim,

Nijand and/or Yang to Mutoh (without admitting that such combinations are suggested or technically feasible), would not cure the deficiencies in the disclosure of Mutoh. For at least this reason, claims 2, 4, 8 and 10-11 are in condition for allowance.

Regarding claim 8, the Examiner asserts that Kim teaches "the scaler is integrated in connection with the image sensor of a camera and the host system. (Fig 3)". Figure 3 of Kim shows only one "scaler" labeled "50". Clearly, the image of a single "scaler" does not disclose or suggest "wherein the apparatus incorporates a host system and the first processor is integrated in connection with the image sensor of a camera and the second processor is integrated in the host system" as in claim 8.

In light of the discussion above, the Applicants respectfully assert that a prima facie case for obviousness was not presented as required. As such, the Applicants respectfully request that the Examiner reconsider and withdraw these rejections to claims 1-8, 10-12 and 16-20.

Newly added Claim 21 depends upon claim 1, which as shown above, is in condition for allowance. For at least this reason, claim 21 is likewise in condition for allowance.

For the foregoing reasons, the Applicants believe that each and every issue raised by the Examiner has been adequately addressed and that this application is in condition for allowance. As such, early and favorable action is respectfully solicited.

Respectfully submitted:

8/10/11

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